

Civil Engineering Graduation Requirements University of Washington http://ce.washington.edu

# ◆ E-FIG: ENGR 101 and GEN ST 199 (2cr)

### Mathematics (24-25cr)

### ◆ MATH 124, 125, 126 - Calc. w/ Analytic Geom I-III (15cr)

- MATH 207 Intro to Differential Equations (3cr) [pr: MATH 125] <u>OR</u> AMATH 351
- MATH 208 Matrix Algebra with Applications (3cr) [pr: MATH 126] <u>OR</u> AMATH 352
- IND E 315 Probability & Statistics for Engineers (3cr) [pr: MATH 136, MATH 207 or AMATH 351] OR STAT 390 - Statistical Methods in Engr. & Science (4cr)

# Sciences (25cr)

- ◆ CHEM 142 General Chemistry (5cr)
- \* CHEM 152 General Chemistry (5cr) [pr: CHEM 142, CHEM 143, or CHEM 145]
- PHYS 121 Mechanics (5cr) [pr: MATH 124 or MATH 134]
- ★ PHYS 122 Electromagnetism (5cr) [pr: MATH 125 or MATH 134; PHYS 121]
- \* PHYS 123 Waves (5cr) [pr: MATH 126 or MATH 134; PHYS 122]

# Engineering General Education Requirements (36cr)

Written and Oral Communication:

### English Composition (5cr)

ENGR 231 - Intro to Technical Communication (3cr) Additional writing (4cr) (May overlap with A&H, SSc, or DIV)

### Areas of Inquiry:

Arts & Humanities – A&H (10cr)

Social Sciences - SSc (10cr)

Additional A&H or SSc (4cr)

Diversity - DIV (5cr) (may overlap with A&H or SSc)

# Economics (4-5cr)

ECON 200 - Microeconomics (5cr) (can satisfy SSc), <u>OR</u> IND E 250 – Fund Engr Economy (4cr) (can satisfy Engr. Fundamentals)

# **Engineering Fundamentals (16cr)**

- ★ AMATH 301 Beginning Scientific Computing (4cr) [pr: MATH 125, Q SCI 292, or MATH 134] <u>OR</u>
- ★ CSE 122 Computer Programming II (4cr) OR
- **★** CSE 160 Data Programming I (4cr)

# ENGRUD Requirement Sheet – Key:

- ♦ = Placement Requirements;
- ★ = Pick one to satisfy placement requirement **Placement:** July 1 at the end of the first year

# Engineering Fundamentals (cont'd)

AA 210 - Engineering Statics (4cr) [pr: MATH 126; PHYS 121]

CEE 220 - Intro to Mechanics of Materials (4cr) [pr: AA 210]

ME 230 - Kinematics and Dynamics (4cr) [pr: AA 210]

# Additional Engineering Fundamentals Course (4cr)

Choose one: A A 260; E E 215; IND E 250; M E 123; MSE 170

### CivE Core (40cr)

- CEE 307 Construction Engineering (5cr)
- CEE 317 GeoSurveying (5cr)
- CEE 327 Transportation Engineering (5cr)
- CEE 337 Construction Materials (5cr)
- CEE 347 Intro to Fluid Mechanics (5cr)
- CEE 357 Environmental Engineering (5cr)
- CEE 367 Geotechnical Engineering (5cr)
- CEE 377 Intro to Structural Design (5cr)

# Professional Practice & Capstone (7cr)

- CEE 440 Professional Practice Studio (2cr) AND
- Capstone (one from): CEE 441, 442, 444, or 445 (5cr)

# Civil Engineering Technical Electives (15cr)

See department for a list of approved courses; this includes at least one course from three separate areas of concentration: Construction, Structural, Geotechnical, Transportation, Hydrology or Environmental.

# Engineering and Science Electives (12-14cr)

- a. One basic science course from approved list
- b. CEE 400-level course(s) or course(s) from approved list

# Free Electives (~2cr)

Additional coursework in any subject area not used elsewhere in degree.

Total credits required for graduation: 180cr



Civil Engineering Sample Curriculum University of Washington http://ce.washington.edu **Civil and Environmental Engineering Advising** Office: 201 More Hall, Box 352700 Seattle, WA 98195-2700 Phone: (206) 543-5092 Email: <u>ceadvice@uw.edu</u>

This is a sample four-year plan for ENGRUD students that prepares them to be able to request placement at the end of the first year. It is intended to provide a framework for ENGRUD students to reference as they create their own individual academic plan.

Courses required to request placement for ENGRUD students: ENGR 101; MATH 124, MATH 125, MATH 126; CHEM 142; PHYS 121. English Composition. ENGRUD students who are interested in CivE should choose one of the following: AMATH 301; CHEM 152; CSE 122; ME 123; MSE 170; PHYS 122, PHYS 123.

| First Year                           |           |                                      |           |   |           |
|--------------------------------------|-----------|--------------------------------------|-----------|---|-----------|
| <u>Autumn Quarter</u>                | <u>cr</u> | Winter Quarter                       | <u>cr</u> | Spring Quarter                          | <u>cr</u> |
| ♦ MATH 124 - Calc. w Analytic Geom I | 5         | ♦ MATH 125 - Calc w Analytic Geom II | 5         | ♦ MATH 126 - Calc w Analytic Geom III   | 5         |
| CHEM 142 - General Chemistry         | 5         | ★ CHEM 152 - General Chemistry       | 5         | PHYS 121 - Mechanics                    | 5         |
| ◆ E-FIG: ENGR 101 & GEN ST 199       | 2         | A&H / SSc                            | 5         | <ul> <li>English Composition</li> </ul> | 5         |
| A&H / SSc                            | 3         |                                      |           |   |           |
| Qtr. Total:                          | 15        | Qtr. Total:                          | 15        | Qtr. Total:                             | 14        |

### Second Year

| Autumn Quarter                       | <u>cr</u> | Winter Quarter                            | <u>cr</u> | Spring Quarter                           | <u>cr</u> |  |
|--------------------------------------|-----------|---|-----------|--|-----------|--|
| MATH 208 - Matrix Algebra            | 3         | MATH 207 - Differential Equations         | 3         | AMATH 301 - Beg. Sci Computing           | 4         |  |
| PHYS 122 - Electromagnetism          | 5         | PHYS 123 - Waves                          | 5         | <u>OR</u> CSE 122 <u>OR</u> CSE 160      |           |  |
| AA 210 - Engineering Statics         | 4         | CEE 220 - Intro to Mechanics of Materials | 4         | IND E 315 - Prob and Stats for Engineers | 3         |  |
| IND E 250 - Fund of Engineering Econ | 4         | A&H / SSc                                 | 4         | ME 230 - Kinematics and Dynamics         | 4         |  |
|                                      |           |   |           | ENGR 231 - Intro to Technical Comm       | 3         |  |
| Qtr. Total:                          | 16        | Qtr. Total:                               | 16        | Qtr. Total:                              | 14        |  |
|                                      |           |   |           |  | 1         |  |

| Third Year                           |    |                                     |    |                                     |           |
|--------------------------------------|----|-------------------------------------|----|-------------------------------------|-----------|
| Autumn Quarter                       | cr | Winter Quarter                      | cr | Spring Quarter                      | <u>cr</u> |
| CEE 317 - GeoSurveying               | 5  | CEE 307 - Construction Engineering  | 5  | CEE 327 - Transporation Engineering | 5         |
| CEE 337 - Construction Materials     | 5  | CEE 347 - Intro to Fluid Mechanics  | 5  | CEE 367 - Geotechnical Engineering  | 5         |
| CEE 377 - Intro to Structural Design | 5  | CEE 357 - Environmental Engineering | 5  | CEE Technical Elective              | 3         |
|                                      |    |                                     |    | CEE 440 - Design Practicum          | 2         |
| Qtr. Total:                          | 15 | Qtr. Total:                         | 15 | Qtr. Total:                         | 15        |

### Fourth Year

| Autumn Quarter                       | <u>cr</u> | Winter Quarter                       | <u>cr</u> | Spring Quarter                       | <u>cr</u> |
|--------------------------------------|-----------|--------------------------------------|-----------|--------------------------------------|-----------|
| CEE Technical Elective               | 3         | Upper Division Engineering & Science | 3         | CEE Capstone                         | 5         |
| CEE Technical Elective               | 3         | Elective                             |           | Upper Division Engineering & Science | 3         |
| Upper Division Engineering & Science | 3         | CEE Technical Elective               | 3         | Elective                             |           |
| Elective                             | -         | Free Elective                        | 5         | Upper Division Engineering & Science | 3         |
| CEE Technical Elective               | 4         | A&H / SSc                            | 5         | Elective                             |           |
| A&H / SSc                            | 3         |                                      |           | A&H / SSc                            | 2         |
| Qtr. Total:                          | 16        | Qtr. Total:                          | 16        | Qtr. Total:                          | 13        |

= Placement Requirement

**★** = Pick **one** to satisfy placement requirements